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# **NASA Procedural Requirements**

**NPR 8570.1B**

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2025**COMPLIANCE IS MANDATORY FOR NASA EMPLOYEES**

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## **NASA Energy and Water Management Program**

**Responsible Office: Office of Strategic Infrastructure**

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# Preface

## P.1 Purpose

a. This NASA Procedural Requirement (NPR):

(1) Implements requirements for the Energy and Water Management (EWM) program under NASA Policy Directive (NPD) 8500.1, NASA Environmental Management, which establishes NASA policy to:

(a) Maintain compliance with applicable external requirements.

(b) Reduce environmental risk to mission.

(c) Incorporate sustainable practices.

(d) Maintain an Environmental Management System (EMS) in accordance with NPR 8553.1, NASA Environmental Management System.

(2) Establishes the means by which NASA will reduce energy/water (EW) risk to mission by increasing the life-cycle cost-effective use of EW efficiency methods, renewable energy sources, and resilient EW systems in compliance with Federal law, Executive Orders (EOs), and NASA policy.

(3) Enhances EW security and resource availability for current and future mission requirements through the EWM program's comprehensive, integrated approach to EW strategy development; EW risk management; master and project planning; and design, implementation, operation, maintenance, and management of EW systems and assets.

(4) Promotes mitigation of EW-related climate change risks and impacts and use of lower impact energy sources.

(5) Promotes Agency support of comprehensive Center and Component Facility EWM programs.

b. The [NASA Energy and Water Management Guidance Handbook](#)<sup>1</sup> contains explanatory material to guide implementation of the requirements of this NPR.

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<sup>1</sup> <https://sp.ndc.nasa.gov/sites/EMD/EnergyandWater/SitePages/Home.aspx>

## P.2 Applicability

a. This NPR is applicable to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. This language applies to the Jet Propulsion Laboratory (JPL), a Federally Funded Research and Development Center (FFRDC), and to other contractors, grant recipients, or parties to agreements only to the extent specified or referenced in their contracts, grants, or agreements.

b. In this directive, all mandatory actions (i.e., requirements) are denoted by statements containing

the term "shall." The terms "may" or "can" denote discretionary privilege or permission, "should" denotes a good practice and is recommended, but not required, "will" denotes expected outcome, and "are/is" denotes descriptive material.

c. In this directive, all document citations are assumed to be the latest version, unless otherwise noted.

## **P.3 Authority**

- a. Financial Reporting and Accounting System, 31 U.S.C. § 3513 (a).
- b. The National Energy Conservation Policy Act, 42 U.S.C. § 8251, et seq.
- c. Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 594 (2005).
- d. The Energy Independence and Security Act of 2007, Pub. L. 110-140, 121 Stat. 1492 (2007).
- e. Efficient Federal Operations, E.O. 13834, 83 FR 23771, May 22, 2018.
- f. Policy on Environmental Quality and Control, 14 CFR subpt. 1216.1.
- g. Facility Management, 41 CFR pt. 102-74, subpt. B.
- h. Energy and Water Efficiency and Renewable Energy, 48 CFR subpt. 23.2.
- i. NPD 8500.1, NASA Environmental Management.

## **P.4 Applicable Documents and Forms**

- a. Retention of Energy and Water Savings, 42 U.S.C. § 8256 (e).
- b. Federal Agency Energy Management Training, 42 U.S.C. § 8262 (c).
- c. The Energy Independence and Security Act of 2007, Pub. L. 110-140, 121 Stat. 1492 (2007).
- d. The Federal Buildings Personnel Training Act of 2010, Pub. L. 111-308, 124 Stat. 3283 (2010).
- e. Federal Energy Management and Planning Programs, 10 CFR pt. 436.
- f. Acquisition of Utility Services, 48 CFR pt. 1841.
- g. NPD 1000.0, NASA Governance and Strategic Management Handbook.
- h. NPD 1000.3, The NASA Organization.
- i. NPD 7330.1, Approval Authorities for Facility Projects.
- j. NPD 8800.14, Policy for Real Estate Management.
- k. NPD 8820.2, Design and Construction of Facilities.
- l. NPD 8831.1, Maintenance and Operations of Institutional and Program Facilities and Related Equipment.
- m. NPR 8530.1, NASA Sustainable Acquisition.

- n. NPR 8553.1, NASA Environmental Management System.
- o. NPR 8800.15, Real Estate Management Program.
- p. NPR 8810.1, Center Master Planning.
- q. NPR 8820.2, Facility Project Requirements (FPR).
- r. NPR 8831.2, Facilities Maintenance and Operations Management.
- s. NASA Energy and Water Management Guidance Handbook.

## **P.5 Measurement/Verification**

Conformance with this NPR is verified by submission of required documents to NASA officials. NASA monitors EW regulatory compliance through Environmental and EW Functional Reviews (EEFRs). Compliance with EW regulations also is monitored by external agencies. To meet reporting requirements of the Office of Management and Budget (OMB) and other agencies, NASA developed the NASA Environmental Tracking System (NETS), in which EW performance data is collected and Centers report on established metrics for EW efficiency, EW conservation measures, and increased use of renewable energy.

## **P.6 Cancellation**

NPR 8570.1A, NASA Energy Management Program, dated July 12, 2013.

# Chapter 1. Energy and Water Management Program Requirements

## 1.1 Agency-level Requirements

1.1.1 The Agency Energy and Water Management (EWM) program provides direction, oversight, analysis, management, and control of EW investments and activities.

1.1.2 The Agency Energy Program Manager shall oversee the Agency EWM program to ensure it includes the following required activities:

- a. Development and dissemination of the Agency Energy and Water Performance Plan (EWPP) that documents the Agency approach for meeting the program requirements documented in this NPR, as well as the Agency strategy for meeting EWM objectives and targets.
- b. Development and management review of EW policy, strategy, planning, objectives, and guidance.
- c. Development of Agency EW performance objectives, metrics, targets, measures, and milestones.
- d. Monitoring, collecting, and analyzing EW data.
- e. Development of strategies and methods to:
  - (1) Minimize EW consumption while complying with health, safety, and mission operations.
  - (2) Optimize and reduce EW utility costs through available utility services/commodity purchasing mechanisms, life-cycle cost-effective efficiency projects and initiatives, alternative fuels, and renewable and alternative EW sources.
- f. Evaluation of EW investment effectiveness.
- g. Analysis and mitigation of risk for EW security and resource availability for NASA missions.
- h. Development of methods and processes to ensure continuous improvement in EW performance.
- i. Integration with the Agency master planning process.
- j. Outreach and awareness across the Agency to inform Agency personnel on EW targets, objectives, and performance.
- k. Participation in domestic interagency partnerships, international collaborative efforts, and other partnerships supporting the Agency EWM program.
- l. Analysis of Center/Component Facility EWM program performance objectives, metrics, targets, measures, and milestones.
- m. Review and approval of Center/Component Facility responses to Environmental Management Division (EMD) data calls.
- n. Analysis of Center EWM program EEFR results to identify opportunities to improve the Agency EWM program.

o. Development of requirements and template for the Center EW Performance Plan (EWPP).

1.1.3 The Agency EWM program will be integrated within the Agency EMS.

## **1.2 Center/Component Facility-level Requirements**

1.2.1 The Center Energy Program Manager shall oversee the Center/Component Facility EWM program to ensure it includes the following required activities:

a. Development of Center/Component Facility EW performance objectives, metrics, targets, measures, and milestones.

b. Monitoring, collecting, and analyzing EW data.

c. Development of strategies and methods to:

(1) Minimize EW consumption and reduce EW intensity while complying with health, safety, and mission operations.

(2) Optimize and reduce EW utility costs through available utility services/commodity purchasing mechanisms, life-cycle cost-effective efficiency projects and initiatives, alternative fuels, and renewable and alternative EW sources.

d. Integration with master planning, sustainable facility project design and construction, and operations and maintenance of facilities to meet EW performance objectives and targets.

e. Coordination of comprehensive EW evaluations of facilities in accordance with The Energy Independence and Security Act of 2007, Pub. L. 110-140, and Agency guidance.

f. Use of economic analyses to support EW investment proposals, including life-cycle cost analyses, according to methods and procedures in Federal Energy Management and Planning Programs, 10 CFR pt. 436.

g. Implementation of EW efficiency projects and initiatives.

h. Reporting on EW performance in accordance with external Federal and internal Agency requirements.

i. An EW outreach and awareness program for Center/Component Facility personnel designed to inform personnel on EW objectives, targets, and performance and to promote EW conservation behaviors, methods, and processes to ensure continuous improvement in EW performance.

j. Identification of training programs for technical personnel and occupants regarding design, maintenance, and operations of sustainable buildings and other EW-related equipment in accordance with the Federal Buildings Personnel Training Act of 2010, Pub. L. 111-308.

k. Development and maintenance of an EWPP that meets Agency requirements for the EWPP.

l. Development and maintenance of an Energy Savings Reinvestment Plan as allowed by Retention of Energy and Water Savings, 42 U.S.C. § 8256 (e).

m. Development and maintenance of an Emergency Energy Security and Conservation Plan that complies with the requirements of 10 CFR pt. 436.

1.2.2 The Center/Component Facility EWM program will be integrated within the Center/Component Facility EMS.

# Chapter 2. Energy and Water Management Program Roles and Responsibilities

## 2.1 Roles and Responsibilities

- a. The roles and responsibilities of senior management are established in NPD 1000.0, NASA Governance and Strategic Management Handbook; NPD 1000.3, The NASA Organization; and NPR 8553.1.
- b. This chapter describes key roles and responsibilities for establishing, assigning, and maintaining EWM program requirements. Responsibilities specific to a position title may be delegated by the responsible person.

## 2.2 Agency Level

2.2.1 The Assistant Administrator for Strategic Infrastructure shall:

- a. Approve the Agency EWPP and advocate for its implementation.
- b. Provide leadership and advocacy for allocation of sufficient resources to execute the EWM program to meet Agency EW performance objectives, metrics, targets, measures, and milestones.
- c. Report annually to NASA senior management on the adequacy and effectiveness of the EWM program.
- d. Approve EW investment recommendations submitted by the Director, Environmental Management Division (EMD) and the Director, Facilities and Real Estate Division (FRED).
- e. Concur on submitted EMD EEFR reports on Center/Component Facility EWM programs.
- f. Approve EW performance reports submitted to external entities.
- g. Approve NASA comments on proposed EW Federal statutory, regulatory, or policy requirements.

2.2.2 The Director, NASA Management Office (NMO) shall oversee JPL (an FFRDC) contracts and subcontracts to ensure inclusion of EW requirements specified in Federal laws and regulations, EOs, and NASA directives.

2.2.3 The Director, EMD shall:

- a. Oversee NASA's EWM program to ensure it is consistent with applicable Federal statutes, regulations, EOs, and NASA directives.
- b. Analyze EW objectives and risks and establish management controls for the EWM program.
- c. Provide policy, guidance, and direction for the EWM program.
- d. Recommend Agency EW strategy alternatives that achieve NASA's EW goals.
- e. Review and submit the Agency EWPP to the Assistant Administrator for Strategic Infrastructure

for approval.

- f. Review EW investment recommendations developed by the Agency EW Program Manager and submit them to the Assistant Administrator for Strategic Infrastructure.
- g. Review and submit EW performance reports to the Assistant Administrator for Strategic Infrastructure for submittal to external entities.
- h. Serve as co-sponsor of the NASA EW Efficiency Panel (EEP), which reviews and comments on Agency EW policies, strategies, recommended priorities, and implementation plans and practices. See EEP definition in Appendix A.
- i. Approve the Agency and Center EWPP templates.
- j. Approve reports on EM EEFRs of Center/Component Facility EWM programs.
- k. Communicate and coordinate with the Director FRED to ensure EWM program effectiveness.

#### 2.2.4 The Agency Energy Program Manager shall:

- a. Provide functional leadership, program advice, and technical assistance to the Agency on EW policy and the strategy to meet EW regulations and external mandates.
- b. Recommend EW performance objectives, metrics, targets, measures, and milestones for the Agency to the Director, EMD.
- c. Develop the Agency EWPP to document the Agency plan for meeting EW performance objectives, metrics, targets, measures, and milestones in the most effective and efficient manner.
- d. Monitor Agency EW performance objectives, targets, metrics, measures, and milestones.
- e. Conduct studies and assessments to identify potential projects and investments that support EW efficiency and renewable energy objectives and targets.
- f. Evaluate proposals and recommend to the Director, EMD, EW projects for investment or financing consideration.
- g. Prepare and submit to the Director, EMD, annual reporting on Agency EW performance objectives, metrics, targets, measures, and milestones.
- h. Prepare and submit to the Director, EMD, external reporting documentation as required by Federal law and regulations.
- i. Provide guidance describing processes and methods by which NASA or external EW requirements should be met.
- j. Conduct EEFRs of Center/Component Facility EWM programs.
- k. Review Center/Component Facility EWPPs.
- l. Review Center/Component Facility Emergency Energy Security and Conservation Plans.
- m. Maintain the NETS EW Module to collect, organize, search, and report EW data and progress from the established baseline.
- n. Support the Center Chair and Vice Chair of the NASA EEP with policy, planning, and program

requirements.

- o. Communicate and coordinate with the Agency Energy Program Manager for Facility Projects and Utility Services to ensure EWM program effectiveness.
- p. Serve as NASA's primary representative on the Interagency Energy Management Task Force.

#### 2.2.5 The Director, FRED shall:

- a. Facilitate implementation of the Agency EWPP.
- b. Review investment recommendations developed by the Agency Energy Program Manager for Facility Projects and Utility Services and submit them to the Assistant Administrator for Strategic Infrastructure.
- c. Approve Center/Component Facility EW-related facility projects and leases in accordance with NPD 7330.1, Approval Authorities for Facility Projects; NPD 8800.14, Policy for Real Estate Management; NPR 8800.15, Real Estate Management Program; and NPR 8820.2, Facility Project Requirements (FPR).
- d. Monitor NASA's EW projects to ensure they are managed in a manner consistent with Federal statutes, regulations, EOs, and NASA directives.
- e. Monitor NASA facilities design, construction, and operations and maintenance policy and practices to ensure they support reducing EW risk to mission and pursuing life-cycle cost-effective compliance with internal and external EW requirements.
- f. Report on sustainable design and construction of facilities to the Assistant Administrator for Strategic Infrastructure.
- g. Review Center and Component Facility utility services and EW commodity procurements, including utility system privatization in coordination with the Office of Procurement in accordance with Acquisition of Utility Services, 48 CFR pt. 1841.
- h. Serve as a co-sponsor to the NASA EEP, which reviews and comments on Agency EW policies, strategies, recommended priorities, implementation plans, and practices. See also section 2.2.3.h.
- i. Appoint the Agency Energy Program Manager for Facility Projects and Utility Services.
- j. Communicate and coordinate with the Director EMD to ensure EWM program effectiveness.

#### 2.2.6 The Agency Energy Program Manager for Facility Projects and Utility Services shall:

- a. Provide functional leadership, program advice, and technical assistance to the Agency on implementation of the Agency EWPP, EW investments, EW project management, and utility acquisitions.
- b. Evaluate and prioritize EW project proposals for investment or financing consideration.
- c. Provide oversight of Agency EW project implementation and EW-related leases.
- d. Monitor Agency EW project performance, metrics, and milestones.
- e. Provide guidance for the implementation of EW management services agreements, contracts, and financing, such as Energy Savings Performance Contracts (ESPC) and Utility Energy Services

Contract (UESC) projects, and the use of Enhanced Use Lease (EUL) authorities for funding EW projects.

- f. Assist Center/Component Facility with utility services and EW commodity procurements.
- g. Provide guidance on facilities design, construction, and operations and maintenance products and processes that support EW efficiency, conservation, and renewable energy goals.
- h. Recommend incorporation of technology and systems into facilities projects that reduce EW consumption and increase the use of alternative and renewable EW sources.
- i. Support the Center Chair and Vice Chair of the NASA EEP with EW program activities.
- j. Communicate and coordinate with the Agency Energy Program Manager to ensure EWM program effectiveness.
- k. Coordinate NASA nominations on Federal EW award and recognition opportunities.
- l. Serve as NASA's alternate representative in the Interagency Energy Management Task Force.

## **2.3 Center/Component Facility Level**

2.3.1 The Center Director shall:

- a. Appoint the Center Energy Program Manager.
- b. Appoint the Center EW Efficiency Team (EET). See EET definition in Appendix A.
- c. Approve Center/Component Facility EW policy.
- d. Approve and submit to the Director, EMD, an EWPP prepared according to the EMD-approved template.
- e. Monitor the Center EW management program to ensure:
  - (1) The program is allocated adequate management and financial resources to meet EW requirements.
  - (2) The Center implements purchasing procedures in accordance with NPR 8530.1.
  - (3) Contractors, grant recipients, or parties to agreements meet the current EW requirements specified in Federal laws and regulations, EOs, and NASA directives.
  - (4) All personnel providing operations and maintenance, energy management, sustainability, water efficiency, and building performance measures and design functions obtain and maintain training in accordance with The Federal Buildings Personnel Training Act of 2010, Pub. L. 111-308.
  - (5) Personnel involved in the initiation and execution of ESPCs/UESCs are knowledgeable and trained in the process.
  - (6) Projects utilizing ESPCs/UESCs follow DOE guidance and meet performance contract management requirements.

2.3.2 The Center Energy Program Manager shall:

- a. Implement a Center/Component Facility EWM program to meet the requirements of this NPR.
- b. Establish and monitor Center/Component Facility EW performance objectives, milestones, metrics, and measures.
- c. Develop EW investment proposals from EW audit results and coordinate implementation through available funding mechanisms.
- d. Prepare the Center/Component Facility EW budget.
- e. Submit timely, complete, and accurate EW performance data in response to Agency data calls.
- f. Communicate approved Center/Component Facility EW procedures to employees and contractors.
- g. Coordinate with Center master planners to optimize EW efficiency in accordance with NPR 8810.1 and ensure that impacts from installed EW conservation measures are taken into consideration.
- h. Coordinate with Center sustainable facility project design and construction activities to support compliance with existing Federal EW performance standards in accordance with NPD 8820.2, Design and Construction of Facilities, and NPR 8820.2.
- i. Coordinate with the operations and maintenance of facilities activities to support compliance with existing Federal EW performance standards in accordance with NPD 8831.1, Maintenance and Operations of Institutional and Program Facilities and Related Equipment, and NPR 8831.2, Facilities Maintenance and Operations Management.
- j. Obtain and maintain training in accordance with the EW management training requirements for Federal agencies found at Federal Agency Energy Management Training, 42 U.S.C. § 8262 (c) and in Pub. L. 111-308.
- k. Coordinate the implementation of EW management services agreements, contracts, and financing, such as ESPC and UESC projects, and the use of EUL authorities for funding EW projects.
- l. Coordinate acquisition of utility services and EW commodity procurements with Center procurement officials.
- m. Coordinate utilities management involving the local utility suppliers and incorporating utility-provided EW audits, metering, fuel switching, load management, rebate programs, rate structuring/switching, and alternative financing options.
- n. Report Center/Component Facility EW data into NETS.
- o. Review and approve utility bills.
- p. Lead the EET and represent the Center/Component Facility on the EEP.
- q. Provide oversight to ensure that the contracting officer (CO) on ESPCs, UESCs, EW management services, utility services, or EW commodity contracts is notified of changes to facilities that affect the contracts, such as the addition or removal of buildings.
- r. Provide oversight to ensure that COs or contracting officer representatives (CORs) for ESPCs, UESCs, EW management services, utility services, or EW commodity contracts are invited to EEP meetings.

2.3.3 The Center and NMO Procurement Officers shall provide oversight to ensure that the COs, contract specialists, and CORs:

- a. Complete appropriate training before administering and/or awarding ESPCs or UESCs.
- b. Review measurement and verification reports as required in ESPC/UESC contracts and take action as needed.
- c. Modify ESPC/UESC contracts based on changes to facilities, such as addition or removal of buildings.

# Appendix A. Definitions

**Compliance.** Conforming to all statutory, regulatory, policy, and procedural requirements.

**Component Facilities.** Complexes that are geographically separated from the NASA Center or institution to which they are assigned.

**Environmental and Energy/Water Functional Review (EEFR).** A functional assessment of environmental and EW management, compliance, and related activities at a NASA Center.

**EW Efficiency Panel (EEP).** An Agency-level forum that:

- Supports development of Agency EW efficiency and conservation policy, EWPP, and leadership strategy.
- Recommends EW efficiency and conservation initiatives.
- Supports Center Directors in implementing NASA EW efficiency and conservation policies through shared innovations and use of ESPCs, UESCs, EULs, and other alternative financing mechanisms.
- Develops consensus positions on EW efficiency and conservation priorities, practices, and issues across Agency and Mission Directorate activities.
- Sponsors or conducts studies and assessments of EW efficiency and conservation issues affecting NASA programs and activities.

**EW Efficiency Team (EET).** A Center-level cross-functional forum that:

- Supports development of Center-level EW efficiency and conservation policy, EWPP, and leadership strategy.
- Recommends EW efficiency and conservation initiatives.
- Supports Center Energy Program Managers in implementing NASA EW efficiency and conservation policies.
- Develops consensus positions on EW efficiency and conservation priorities, practices, and issues across Center activities.

**EW Investment Project.** A specific project intended and designed to provide EW savings, demand reduction, and efficiency improvements.

**Implementation.** The execution of approved plans for the development and operation of programs and projects and the establishment of control systems to ensure plan performance and alignment with current Agency strategies.

# Appendix B. Acronyms

CFR	Code of Federal Regulations
CO	Contracting Officer
COR	Contracting Officer's Representative
DOE	U.S. Department of Energy
EEFR	Environmental and Energy/Water Functional Review
EEP	Energy/Water Efficiency Panel
EET	Energy/Water Efficiency Team
EISA	Energy Independence and Security Act of 2007
EMD	Environmental Management Division
EMS	Environmental Management System
EO	Executive Order
ESPC	Energy Savings Performance Contract
EUL	Enhanced Use Lease
EW	Energy/Water
EWM	Energy/Water Management
EWPP	Energy/Water Performance Plan
FFRDC	Federally Funded Research and Development Center
FRED	Facilities and Real Estate Division
JPL	Jet Propulsion Laboratory
NETS	NASA Environmental Tracking System
NFS	NASA Federal Acquisition Regulation Supplement
NMO	NASA Management Office
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
OCFO	Office of the Chief Financial Officer
OMB	U.S. Office of Management and Budget
U.S.C.	United States Code
UESC	Utility Energy Services Contract